

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-9 (Canceled).

Claim 10 (New): A process for regenerating a spent hydrogenation catalyst comprising at least one catalytic metal selected from the group consisting of Ru, Rh, Pd, Os, Ir and Pt on an inert support, wherein the spent catalyst has been used in a reaction of hydrogenation of traces of acetylene which are present in a gas mixture consisting essentially of HCl and obtained from the pyrolysis of 1,2-dichloroethane (DECa) and in that the said process consists essentially of a thermal treatment in the presence of oxygen at a temperature of between 300 and 700°C.

Claim 11 (New): The process according to Claim 10, wherein the catalytic metal is Pd.

Claim 12 (New): The process according to Claim 10, wherein the inert support is based primarily on silica.

Claim 13 (New): The process according to Claim 10, wherein the inert support has a BET surface area of less than 5 m<sup>2</sup>/g.

Claim 14 (New): The process according to Claim 10, wherein the temperature during the thermal treatment is between 400 and 600°C.

Claim 15 (New): The process according to Claim 10, wherein the thermal treatment takes place in the presence of air.

Claim 16 (New): The process according to Claim 10, wherein the thermal treatment consists in a residence in a stove or a ventilated electric oven.

Claim 17 (New): The process according to Claim 10, wherein the catalyst is contaminated with traces of heavy metals.

Claim 18 (New): A process for synthesizing vinyl chloride monomer (VCM) by coupling a direct chlorination and an oxychlorination of ethylene to form DCEa, which is converted primarily into VCM and into HCl by pyrolysis, the said HCl containing traces of acetylene and being recycled to the oxychlorination following hydrogenation of these traces of acetylene in the presence of a catalyst regenerated by the process according to Claim 10.